

IN THE CLAIMS

1. (Currently Amended) A method of assigning and allocating physical network resources to enable Layer 1 Virtual Private Networks (L1-VPNs) to be created within a communication network of the physical network resources, each of the L1-VPNs including dedicated physical network resources which are physically assigned to the L1-VPN and able to be controlled and provisioned for use exclusively within the L1-VPN, on a communication network; the method comprising the steps of:

collecting information about available physical network resources used to implement on the communication network;

designating a first subset of the available physical network resources as dedicated L1-VPN resources, the dedicated L1-VPN resources being physical resources on the communication network that are designated as being dedicated to be provisioned and used only within a first L1-VPN, at least a first portion of the first subset of the dedicated L1-VPN resources being assigned to the first L1-VPN for exclusive use within the first L1-VPN; and

designating a second subset of the available physical network resources as shared L1-VPN resources, the shared L1-VPN resources being physical resources on the communication network that are allocated as available to be assigned for use in two or more separate L1-VPNs, at least a second portion of the second subset of the resources being assigned to the first L1-VPN for exclusive use within the first L1-VPN to enable the second portion of the second subset of the resources to be provisioned and used only within the first L1-VPN and at least a third portion of the second subset of the resources being unassigned and able to be assigned to the first L1-VPN or a second L1-VPN for exclusive use within the first L1-VPN or second L1-VPN on demand to a second L1-VPN.

2. (Canceled)

3. (Previously Presented) The method of claim 1, wherein the resources assigned to the first L1-VPN are dedicated to the first L1-VPN.

4. (Canceled)

5. (Previously Presented) The method of claim 1, wherein the first L1-VPN and second L1-VPN are a first group of L1-VPNs, and wherein the resources assigned to the first group of L1-VPNs may be used by one of the group members at a time.

6. (Previously Presented) The method of claim 1, further comprising designating a third subset of the resources as public L1-VPN resources.

7. (Original) The method of claim 1, wherein resources not designated as dedicated L1-VPN resources and not designated as shared L1-VPN resources are public L1-VPN resources.

8. (Original) The method of claim 1, further comprising the step of communicating information associated with the steps of designating the first subset of the resources as dedicated L1-VPN resources; and designating the second subset of the resources as shared L1-VPN resources to network elements to enable those resources to be allocated on the communication network.

9. (Previously Presented) The method of claim 1, further comprising the steps of:
receiving a request associated with the first L1-VPN for network resources; and
allocating network resources from the first portion of the first subset to fulfill the request.

10. (Canceled)

11. (Previously Presented) The method of claim 9, wherein the step of allocating assigned network resources comprises determining current assignment information for the L1-VPN to determine which network resources have been assigned to the L1-VPN, and allocating network resources to the L1-VPN from the first portion of the first subset if those network resources have not been previously assigned to the L1-VPN.

12. (Previously Presented) The method of claim 9, further comprising designating a third subset of the resources as public L1-VPN resources, and wherein the step of allocating assigned network resources comprises determining current assignment information for the L1-

VPN to determine which of the second portion of the second subset of the network resources have been assigned to the L1-VPN, and determining which of the assigned network resources are currently in use.

13. (Previously Presented) The method of claim 12, wherein the step of allocating further comprises selecting network resources from the second portion of the second subset that have been assigned to the L1-VPN and which are not currently in use to fulfill the request, and selecting public network resources to augment the assigned resources to fulfill the request if necessary.

14. (Previously Presented) The method of claim 13, wherein the first L1-VPN and second L1-VPN are a first group of L1-VPNs, and wherein the step of allocating comprises prioritizing between L1-VPNs to enable the first L1-VPN to obtain L1-VPN resources associated with the second portion of the second subset that are currently in assigned to a third L1-VPN that is not part of the first group of L1-VPNs.

15. (Previously Presented) The method of claim 14, wherein prioritizing results in a transfer of the network resource from the third L1-VPN to the first L1-VPN.

16. (Canceled)

17. (Original) The method of claim 9, wherein the step of allocating is done on demand.

18. (Original) The method of claim 9, wherein the step of allocating allows network resources to be shared between multiple L1-VPN subscribers by allowing the same network resources to be allocated to more than one L1-VPN subscriber, one L1-VPN subscriber at a time.

19. (Previously Presented) An apparatus for assigning and allocating network resources to Layer 1 Virtual Private Networks, L1-VPNs, on a communication network, comprising:

a processor containing control logic configured to:

collect information about available resources on the network; and

designate a first subset of the resources as dedicated L1-VPN resources, at least a first portion of the first subset of the resources being assigned to a first L1-VPN; and

designate a second subset of the resources as shared L1-VPN resources, at least a second portion of the second subset of the resources being assigned to the first L1-VPN and to a second L1-VPN;

receive a request associated with the first L1-VPN for network resources; and

allocate network resources from the first portion of the first subset to fulfill the request.

20. (Previously Presented) The apparatus of claim 19, wherein the resources are optical network resources, and wherein allocated assigned resources are dedicated to only one L1-VPN subscriber while allocated.